Assignment 1

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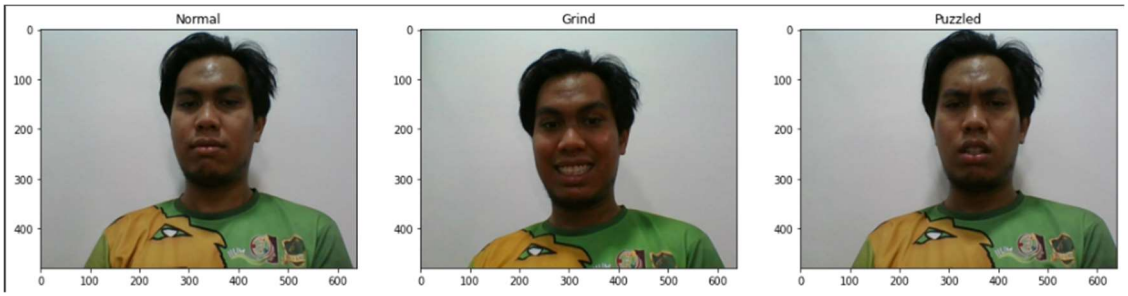
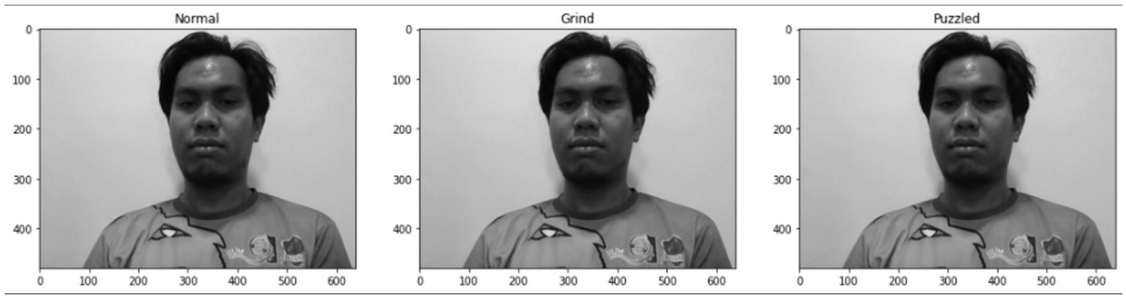
A.

Three facial expressions are captured: normal, grind and puzzled expression. Firstly, the original images are converted from BGR to RGB then are plotted as comparison. These images are then converted to grayscale as part of the process for edge detection. Cascade classifier which is imported from OpenCV is used to identify the face in order to blur the facial part of the image. Lastly, the output of the Canny and Sobel can be seen only on the faces of the three facial expression from the images.

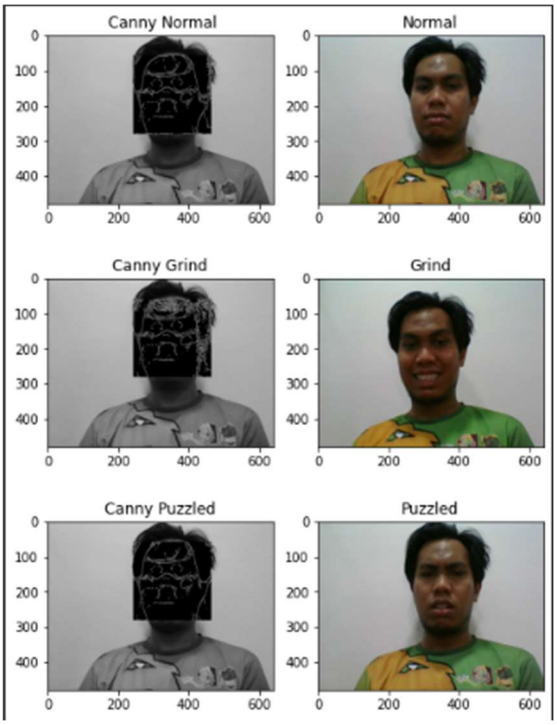
BGR to RGB:



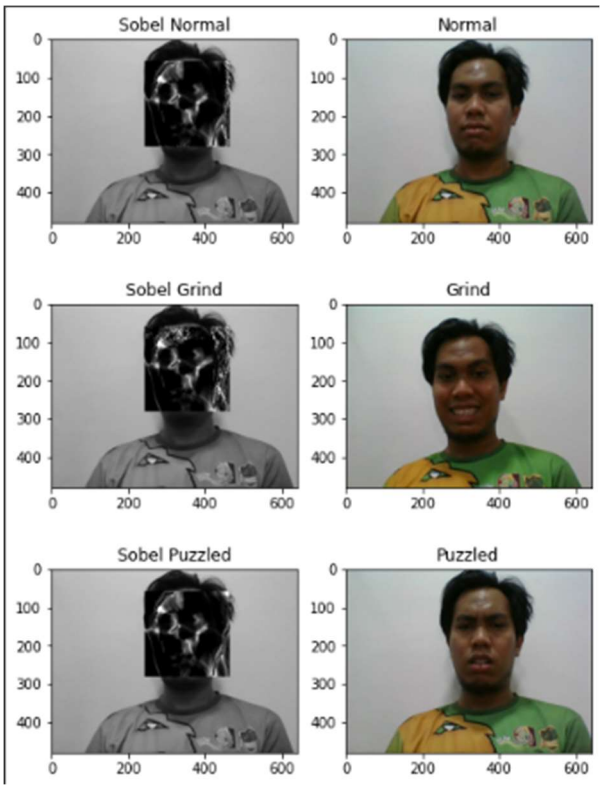

RGB to Grayscale:




Canny:

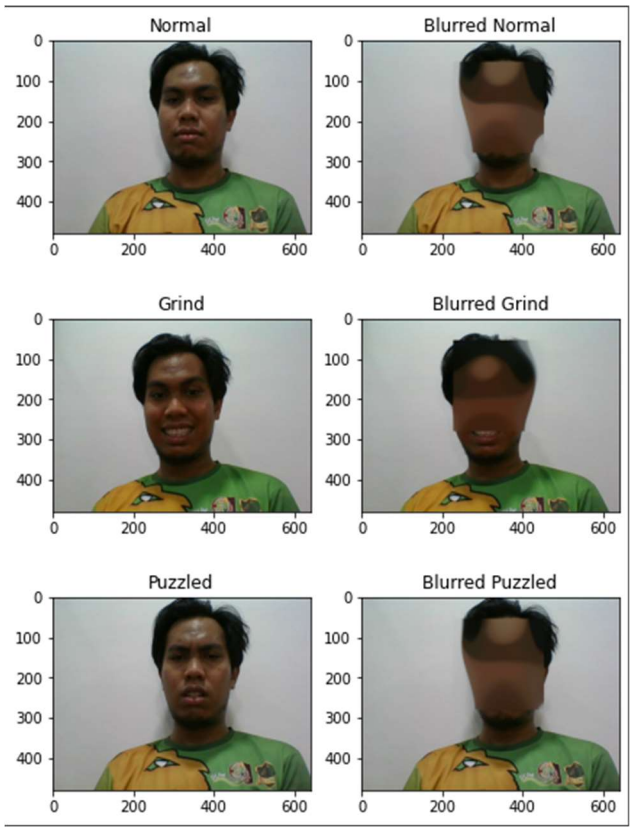



Sobel:




B.

The similar facial expression images are used. But in this case, only the cascade classifier is used in order to identify the face. Then the medianBlur is applied onto the original images.




C.

The image of the coin needs to be converted into grayscale first. Next, GaussianBlur is applied and as well as Canny for edge detection. Finally, contours will be used to detect the edge of the coins.